

**DESIGN AND IMPLEMENTATION OF A WEB BASED EXAMINATION SYSTEM
FOR STAFF RECRUITMENT**

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF COMPUTER SCIENCE, SCHOOL
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CERTIFICATION

WE, the undersigned hereby certify that this project was carried out by

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WE also, certified that our work is adequate in scope and quality in partial
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DEDICATION

This project work is dedicated to God almighty for his mercies and strength throughout my educational pursuit.

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ABSTRACT

This study was intended to design and implement an online examination system for staff recruitment. This study was undertaken majorly to design and implement an online examination system for staff recruitment. Specific objectives of the study are: To identify the structure/characteristics of an online examination system for staff recruitment, To identify the benefits of an online examination system for the recruitment of staff, To find out the challenges/disadvantages of the adoption of online examination system for the recruitment of staff.

The problems of the existing system includes; it is time consuming, errors in computation is very common, it is inefficient, reports of results cannot be easily retrieved. In the proposed system, staff recruitment will be carried out effectively on the internet in order to save time and also to bring fairly to qualified candidates. This system will save time, minimize computation errors and also help the staffs to recruit the right personnel for the organization. The system design pertains to the layout of the system and it consists of the input and output layout.

Keywords: *Online Examination System, PHP Language, XAMP, Web Based Application, E-Recruitment, Software*

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

An online examination system for recruitment of staff is a web application that establishes a network between the organization and applicants. The organization enters on the site the questions they want in the exam. These questions are displayed as a test to the eligible students. The answers inputted by the applicants are then evaluated and their score is calculated and saved. This score then can be accessed by the institution to determine the passes students or to evaluate their performance. Online Exams System provides the platform but does not directly participate in, nor is it involved in any tests conducted. Questions are posted not by the site, but users of the site.

According to Yu, Hsiao and Cho (2014), web based examinations are convenient, and fast. Online examination has three main purposes:

1. To allow test-takers at different places to take the test at the same time through the online examination website.
2. Through careful planning and proper coding, enable tests, grading and to check results on the website.
3. To integrate database with the program, allowing teachers easy addition of questions and creation of tests.

The formulation of questions for a test is often treated with doubts and suspicions. In a typical web based examination system, the questions are strict and set with care. Although the exam questions is in the multiple choice format (objectives), the questions are chosen at random. All students have the same questions but the order of questions is different. Since the order of the question differs on each computer, the motive in students to cheat is reduced. Cheating at examinations is unacceptable. It is common knowledge that people are likely to cheat in a network environment but this is wrong as cheating at examinations is unacceptable as it affects the fairness of an examination. This situation implies that to overcome the tendency to cheat is the major challenge in online examinations. Despite the pitfalls, online examination is very important and useful as it breaks the barrier of distance and different geographical location. Applicants from all over the world can access the system thereby giving the examiners a good chance to identify highly intelligent prospective staff.

Every organization is made up of employees, and before employees are recruited, information pertaining to them is obtained, processed and analyzed after they have applied to determine their qualification for employment into a given position. For every position, there are certain skills and qualifications needed. The performance of the individual is a function of employee ability, motivation and opportunity (Boxall & Purcell, 2013).

Short-listing of employees also known as Recruitment and selection, forms a core part of the central activities underlying human resource management: namely, the acquisition, development and reward of workers. It forms an important part of the work of human resource managers – or designated specialists within work organizations. It has an important role to play in ensuring worker performance and positive organizational outcomes. It is often claimed that selection of workers occurs not just to replace departing employees or add to a workforce but rather to put in place workers who can perform at a high level and demonstrate commitment. Recruitment is important for organizations since it performs the essential function of drawing an important resource, human capital, into the organization (Boxall & Purcell, 2013; Parry & Tyson, 2008;). It has a strategic aim as it focuses on the need to attract high-quality people in order to gain a competitive advantage (Parry & Tyson, 2018; Malinowski et al, 2005). Recruiting people with the right abilities reinforces the organizational goals (Boxall & Purcell, 2013).

Conducting examination before employees are recruited is very important as their level of success in the exams will reflect their level of competence or ability. Online examination widens the spectrum for organizations to reach out to more applicants and to get the best. It is on this premise that this research study is set to examine the design and implementation of a web based examination system for recruitment of staff.

1.2 Statement of Problem

Many organizations do not have competitive personnel and this negatively affects the productivity and image of the organization. In addition, there is no effective structure to recruit staff that is able to stand up to the responsibility of their duties. Many organizations still adopt the manual method of recruiting and the applicants are limited to those in their immediate environment. Also, many applicants find it difficult to get to the examination centers due to distance and high cost of transportation.

Organizations are unable to reach out to a wide spectrum of applicants so as to be able to recruit the best employees. The traditional examination for recruitment is usually characterized by cheating which hampers the credibility of recruited employees. There is need for a more effective system that is able to reach out to a wider spectrum of employees, breaking the barrier of distance and cost and thereby promoting the recruitment of well qualified staff.

1.3 Aims and Objectives of the study

The aim of this study is to design and implement a web based examination system for staff recruitment, there by satisfying the following the objectives:

- i. To design and implement an online examination system for the recruitment of staff.

1.4 Significance of the study

The significance of the study is that it will bring to light the relevance of adopting web based examination system for employee short-listing or e-recruitment system and the need for its adoption by organizations. It will help organizations solve the present challenges they are facing in attracting eligible and professional employees by providing a software system that processes the application of different applicants. It will also save them time and cost of recruiting. In addition, other scholars seeking for valuable information on the subject will find this research material relevant.

1.5 Scope of the Study

This study covers the design and implementation of a web based examination system for the recruitment of staff.

1.6 Definition of Terms

- i. **Online**: Refers to a system connected to the internet that can be accessed remotely from any part of the world.
- ii. **Examination**: A test designed to assess somebody's ability or knowledge in a particular subject or field.
- iii. **Employment** – The condition of working for pay.
- iv. **Application** - A formal and usually written request for something such as a job, a grant of money, or admission to a school or college.

- v. **Short-list** - To put somebody or something on a final list of candidates for a position or award.
- vi. **Recruitment** - To enroll somebody as a worker or member, or to take on people as workers or members.
- vii. **Human resources** - The field of business concerned with recruiting and managing employees.
- viii. **Management** - The organizing and controlling of the affairs of a business or a sector of a business.
- ix. **Internet** - A global computer network providing a variety of information and communication facilities, consisting of inter-connected networks using standardized communication protocols.
- x. **Web-Based Application** - Is a particular type of software that allows users to interact with a remote server through a web browser interface.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Recruitment is the process of attracting the most suitable people for the positions selection are the process of choosing the best person for the position, and induction is introducing the person to the position. This module describes series, of well tested steps to help you identify the right person to ensure he or she will fit well with your farm business and to meet the various legal obligations of an employer.

If recruitment is done well, the business benefits from happier and more productive people. Reduced staff turnover, good working relationships and ultimately a more profitable process.

According to Nadler (2014), recruitment is the premier major steps in the selection process in an organization. It has been explained as an activity directed towards obtaining appropriate human resources whose qualification and skills match functions of the relevant posts in the organization. Its importance cannot be over emphasized and can be best described as the "heart" of any organization.

Elwood (2016), said that the process of recruiting new staff is critical. To large extents, the success of an organization depends on it. This is so because,

when right crop of manpower is enrolled, it makes a better work output on the hand, employing the wrong candidate will mar the future of that organization.

Odiagbga (2014), said that in many organizations, enough and quality time allocated to this exercise, in order to ensure a successful outing.

The following are some recesses and stages by some companies, which may also be termed as standard - recruitment refers to the process of attracting, screening, and selecting qualified people for the job. For some components of the recruitment process, mid-and-size organizations often retain professional recruitment, and niche agencies which specialize in a particular area of staffing some organizations use employer branding strategy and in-house recruitment instead of agencies. Recruitment - related functions are generally carried out by an organizations human resources staff.

The stages in recruiting include sourcing candidates by advertising or other methods, screening potential candidates using tests and/or interviews, selecting candidates based on the results of the tests and/or interviews, and on-boarding to ensure the candidate is able fulfill their new role effectively.

2.2 Types of Recruitment System

1. **Internet recruitment** is a recruitment which take place within the concern or organization.

Internet sources of recruitment are readily available to an organization. Internal sources are primarily three - transfers promotions and re-employment of ex employees. Re-employment of ex-employees is one of the internal sources of recruitment in which employees can be invited and appointed to fill vacancies in the concern. There are situations when employees provide unsolicited applications also.

Internal recruitment may lead to increase on employees, productivity as their motivation level increases. It also saves time, money and efforts. but a drawback of internal recruitment is that it restrain the organization from new blood. Also, not all the man power requirement can be met through internal recruitment. Hiring from outside has to be done.

Internal Sources and Primarily

- a) Transfers
- b) Promotion (through internal job postings) and
- c) Re-employment of employees

2. External recruitment - this is usually solicited from outside the organization. External sources are external to a concept. But it involves a lot of time and money. The external sources of recruitment include; employment at factory level, advertisements, employment exchange, employment agencies, educational institutes, labor constructors, recommendation etc.

a) **Employment At Factory Level:** this is a source of external recruitment in which the applications for vacancies are presented on bulletin boards outside the factory workers are to be appointed. There are people who keep on soliciting for job from one place to another. These applicants are called unsolicited applicants. These kind of workers apply on their own for the job.

b) **Advertisement:** it is an external source which has got an important place in recruitment procedure. The biggest advantage of advertisement is that it covers a wider area of market and scattered applicants can get information from advertisement. Mediums used are eg. Newspaper and television etc.

c) **Employment exchanges:** there are certain employment exchanges which are run by government. Most of the government undertakings and concerns employ people through such exchange. Today, recruitment in government agencies has become compulsory through employment exchange.

d) **Employment Agencies:** there are certain professional organizations which look towards recruitment and employment of people i.e. these private organizations run by private individuals supply required manpower to needy concerns.

e) **Educational institution:** there are certain professional institutions which serve as external source for recruiting fresh graduates from these institutes. This kind of recruitment done through such educational institutions is called campus

recruitment. They have special recruitment cells which help in providing jobs to fresh candidates.

f) **Recommendations:** these are certain people who have experience in a particular area. They enjoy goodwill and a stand in the company. There are certain vacancies which are filled by recommendation of such people. The biggest drawback of this source is that the company has to rely to tally on such people which can later on prove to be inefficient.

g) **Labor contractors;** these are the specialist people who supply manpower to the factory or manufacturing plants. Through these contractor workers are appointed on contract basis, i.e. For a particular time period under conditions when these contractors leave the organization, such people who are appointed have to also leave the concern.

2.3 The Need for Employee Recruitment Using Online Examination

Organizations make use of e-recruitment because of several reasons (Chapman & Webster,2013). These include:

1. Cost Savings
2. Ease of Use for Candidates
3. Larger candidate pool
4. Ease of use for the organization speed to hire

5. Increasing the speed to hire
6. Success in finding candidates
7. Keeping ahead of competitors

Parry and Tyson (2018) studied the use and success of e-recruitment methods in the UK. They conducted a six-year survey and performed qualitative interviews among HR managers. The survey had 25,224 respondents over the six years, and represented 935 organizations per survey. Interviews were held to supplement the survey data with a more in-depth view. Fifteen qualitative interviews were conducted with senior HR or resourcing managers responsible for recruitment, and five additional interviews were conducted with providers of online recruitment technology. They found from research that cost effectiveness is the most important reason (75%) mentioned by organizations, followed by ease of use for candidates (64%), a larger candidate pool (53%) and ease of use for the organization (52%). Galanaki (2012) performed a survey among a sample of 99 organizations, of which 34 organizations responded. This research found similar importance regarding reasons to use e-recruitment, like cost effectiveness (46%), wide response rate (46%), reaching a specific niche (42%) and reaching passive job seekers (38%). Pin et al (2011) found, among 167 organizations, additional support for time savings (64%), lower recruitment costs (51%) and 24hrs a day, 7 days a week online (51%).

2.4 Steps involved in Employee recruitment

The recruitment process begins with the identification of a vacancy where after the recruiter receives authorization to fill in this vacancy (Chapman & Webster, 2013). In order to do so, the vacant job needs to be carefully analyzed. Analyzing the job might include determining the necessary knowledge, skills, and experience required to perform the job appropriately and finding the required specifications. After identifying and analyzing a vacancy, it can be placed, for example, in newspapers or other media sources. Applicants can apply for vacancies by using the internet. Likewise, further correspondence between organization and applicant depends on the internet to a large extent. Cappelli (2011) describes the recruitment process in three steps. First, candidates need to be attracted. This concerns using the organization's reputation, product image, online technology and other methods to draw as many potential applicants as possible to the organization's website. On the website, organizations can reinforce their human resources brand and provide information about jobs and working conditions. The second step in this process is sorting applicants. This relates, for example, to employing sophisticated, standardized online tests to screen candidates, and winnowing the applicant pool to a manageable number. Third, the contacts need to be managed quickly. Due to the use of the internet, organizations are able to respond more quickly to a desirable candidate. An e-recruitment process follows ideally from a systematic human resource planning process, whereby an

organization analyses and plans for the flow of people into, through, and out of the organization (Chapman & Webster, 2013). Yet, there is a fourth step, which does not belong necessarily to e-recruitment but to every recruitment process. This concerns closing the deal (Cappelli, 2011). It refers to making the phone call, setting up the meeting and shaking the hand. From this description, one can notice that the e-element is absent. In this way, Cappelli (2011) highlights importance of the human touch at the end of the recruitment process. According to him, human touch is increasingly neglected in e-recruitment processes but remains very crucial.

2.5 The Concept of Online Examination

Online examination, also known as e-examination, enables examiners to conduct using the internet or a company-wide intranet for remote candidates. It requires candidates answer questions within a pre-decided timeframe. The test window collapses once the exam is over, and institutes get real time reports. evaluators then access the answers and grades accordingly. The fully automated system supports objective evaluation and helps generate results faster than in a traditional exam format.

Most online exams include answer processing modules, allowing evaluators to issue results moments after the candidates complete the test. However, evaluators assess the answers in-person for long-answer-type questions where

results are not automated. The result of online exams is then conveyed to the candidates via email or published on the institute's website.

In future, the internet world will have an even closer relation with our daily lives, online teaching and online examination are the direction towards which the academic circle will move. An online examination system does not have the limitation of time and place. Users can arrange their examination time in accordance to the progress of their lesson. Since the test is graded by computers, time which would have been required for manual marking and grading is saved. Test takers can check the test solutions immediately after the test, thus letting candidates know their mistakes and work to correct them. A few of the prominent online exam types include:

- i. Semester and entrance exams for educational ins
- ii. Coding/programming assessments
- iii. Aptitude tests and personality profiling
- iv. Video interviews and viva
- v. Mock practice tests
- vi. Image-based or media-based online exams
- vii. Open-book tests
- viii. Competitive exams and contests

2.6 Advantages of Using Web based examination system for Employee Recruitment

It has a strategic significance as it puts emphasis on the need to attract high-quality people in order to gain a competitive advantage (Parry & Tyson, 2018; Malinkowski et al, 2015).

"To ensure successful application management for the applicant and for us as the company, it is vital to have a transparent system of job listings and interested candidates. To guarantee transparency, we need an application management system that all personnel departments can efficiently and independently access. It would be impossible to ensure this type of access at a company as large as Deutsche Post World Net with resume folders and e-mail applications. That is why we work strictly with online applications (Website Deutsche Post)."

A second outcome of successful implementation online examination for recruitment concerns productivity benefits of e-recruitment. These are widely discussed in the literature. If e- recruitment is successfully implemented, it might lead to efficiency advantages like cost reduction and time saving (Cappelli, 2011) shows that lowering recruitment costs is the number two advantage of e-recruitment. 51% of their respondents perceived cost savings as an advantage. Time saving include job posting and processing time, which can be reduced by e-recruitment (Jones et al, 2012). Job postings, applicant response, and processing of

résumés can be done faster (Pin et al, 2011). Next to that, the immediacy of listing reduces the time taken for recruitment to remove quality job candidates from circulation before other competitors have the opportunity to act (Jones et al, 2013). This affects the hiring cycle. Time saving advantages also influence cost reduction. Finally, e-recruitment system quality. Regarding to this construct, interviewees perceived the system to be relevant. The system provides users several tools through which they can perform and structure their recruitment process. The online test or exams is an integral part of the system.

The SAP E-recruiting Business Case (2014) describes, among other things, the initially expected benefits of the system. These benefits include, first of all, decreasing recruitment costs by matching supply and demand, proactive recruitment of personnel, decreasing the turnaround time of the recruitment process, and purposeful use of recruitment channels. Secondly, the new system was expected to reduce the turnaround time from 90 to 50 days. Finally, the time spent on resume handling was to be decreased by at least 2.5 hours per resume.

2.7 Disadvantages of Using Online Examination for Employee Recruitment

Although there are aspects that influenced e-recruitment using online examination in a positive way, the new technology also contributed negatively to the quality of the recruitment process. Due to the increased administrative burden, there is less time left to perform the key activity of recruitment, recruiting potential employees.

Another issue concerns the user-friendliness of the system. Because of its time consuming and cumbersome design, e-recruitment requires users to perform many tasks and to perform illogical work processes. Yet, as recruiters state that this is a disadvantage, they perceive it is worse that the system is applicant unfriendly. This refers to the system's extensive nature, to the ease of understanding of the system, and the effort required of applicants.

The system is actually programmed and may fail to see other areas of strength the applicants have as opposed to the manual method of recruitment.

CHAPTER THREE

SYSTEM ANALYSIS AND DESIGN

3.1 Analysis of the Existing System

In the existing system a vacancy arises, sometimes this is due to the creation of a new job, on other occasions it may be because an existing member of staff has been promoted or is retiring.

The job description is updated and an employee specification gives details of the experience, skills and abilities needed to carry out the job. A vacancy advertisement is written and is circulated via different media including newspapers, internet recruitment sites, specialist publications and the employment service. Application forms are sent out along with copies of the job description and employee specification and must be returned on or before the closing date that has been set. A shortlist is compiled of applicants who are going to be invited to attend for interview. This is done by recruitment panel that compare each application form with the requirement of the employee specification. Feedback can be provided (upon request) to those not short listed and applicants have the right to complain if they feel they have been unfairly treated. The successful candidates are then invited for orientation, which is closely followed by induction training, after which the successful candidates are now absorbed into the organization and displayed accordingly.

3.2 Objectives of the New System

The new system is employed to achieve the following:

- i. To enable easy access for employee or applicant short listing information on the computer either offline or online.
- ii. For easy update of applicant information
- iii. To enhance the rate and speed of short listing applicant or employee information due to the fact that a computer is a fast machine

3.3 System Design

The system design is simply the design of the system. It implies a systematic and rigorous

approach to design the new system as an approach demanded by the scale and complexity of many system problems. Structured system analysis and design methodology (SSADM) were used. This is because SSADM is an internationally accepted software engineering model mainly used in most result oriented analysis and design.

Input Form Design

The input for the design of this system is the employee bio-data form that is provided by

the organization to applicant to enter their information that can be used to identify each applicant. More also other form in form of exam answer buckets are provided to collect answers for question.

From such forms data is processed and used to short list the applicants either for the interview or those that were legible for the office.

Employee Bio-Data Form

First Name	<input type="text"/>
Middle Name	<input type="text"/>
Last Name	<input type="text"/>
Gender	<input type="text"/>
Address	<input type="text"/>
Position	<input type="text"/>
Contact	<input type="text"/>
Email Address	<input type="text"/>
<input type="button" value="Save"/>	

fig 3.1 Input Form Design

Output Form Design

The output analysis for the system is the short listing form which can be in the form of a

database reflecting all the names of the eligible candidate for the vacant positions in the institute

First Name: Voke
Middle Name: Obehi
Last Name: Project
Gender: Female
Address: Auchu, Edo State
Position: Computer Science
Contact: 07080808080
Email: Vokeobehiproject@gmail.com

Fig 3.2 Output Form Design

DATA BASE DESIGN TABLE

ADMIN

FIELD NAME	DESCRIPTION	FIELD LENGHT	DATA TYPE
Admin_id	Primary key	30	INT
Admin_user	Primary key	50	VAR
Admin_pass	Primary key	20	VAR

USER LOGIN

FIELD NAME	DESCRIPTION	FIELD LENGHT	DATA TYPE
Id	Primary key	11	INT
User_name	Primary key	50	VARCHAR
Password	Primary key	50	VARCHAR

ANSWER

FIELD NAME	DESCRIPTION	FIELD LENGHT	DATA TYPE
Staff_id	Primary key	11	INT
Field	Primary key	30	VARCHAR
Question Number	Primary key	45	INT
Answers	Primary key	45	VARCHAR

3.4 Data Collection and Analysis

The analyses of the system of data collection are design to solve problems affecting the manual system in use. It is design to put a stop to data collection of manual process for applicant to check for their name after a position have been applied for, the process of data manual collection, is the system that involves the use of pasted form on the notice board which can lead to removal of forms because of the people who were expecting to see their names at the end of the day; their names were not there.

In this system of data collection, it will do the analyzing of storing of short listed applicant information automatically

The proposed system will also have some other features like:

- i. Accuracy in the handling of data
- ii. Fast rate of operation and excellent responses time
- iii. Flexibility it can be accessed at any time
- iv. Easy way of backup or duplicating data in diskettes in case of data loss
- v. Better storage and faster retrieval system
- vi. Accessibility from any part of the world

3.5 Flowcharts for the proposed system

This is a pictorial representation of how the hardware components work with the programs of the system. Its uses conventional symbols to represent its action and flow of control between the hardware components as show below, yet flowchart involves creating a flow model that illustrate and analyzes the overall flow activities in producing a product or services.

System Flow Chart

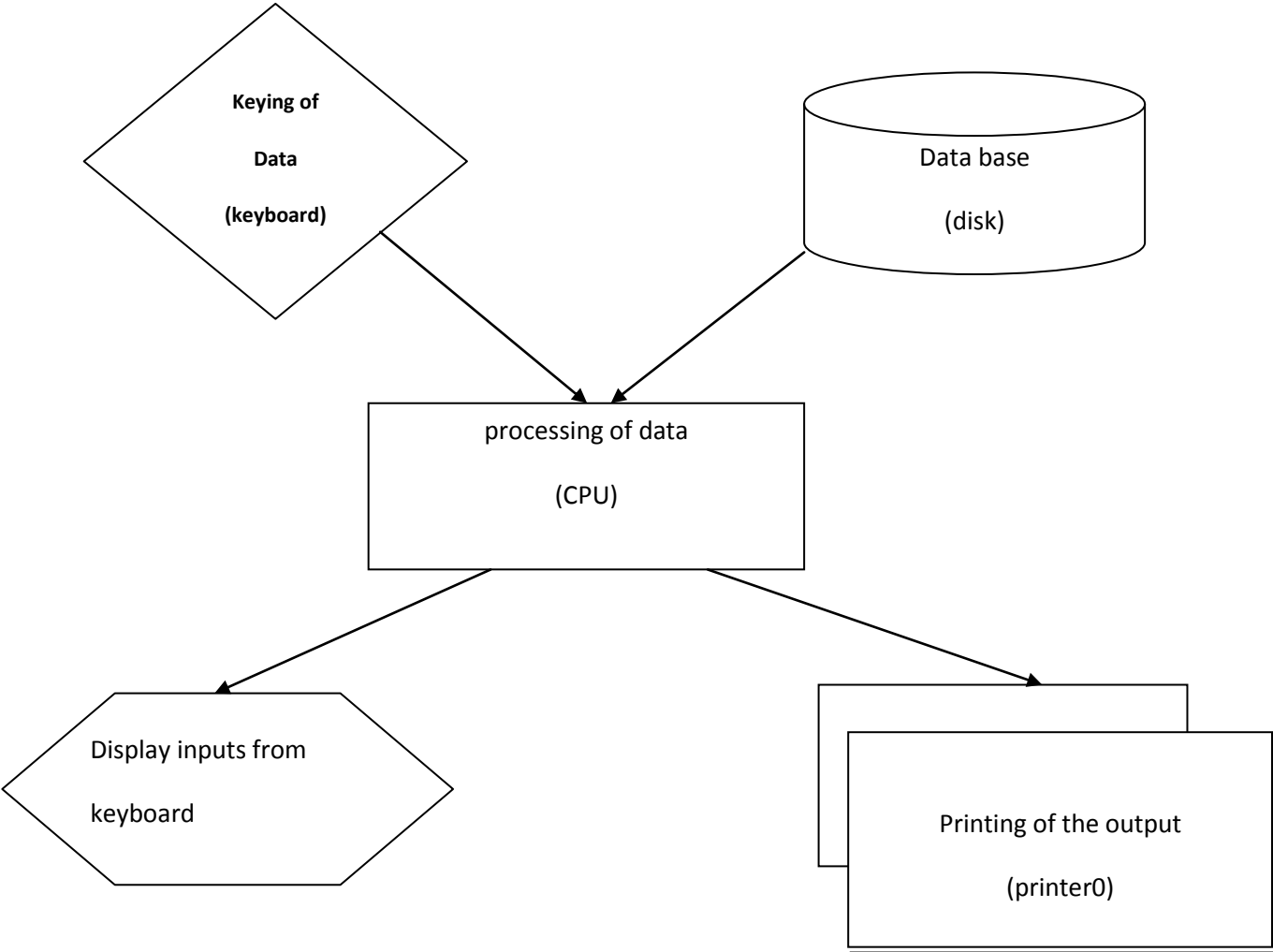


Fig 3.3 The System Flowchart Design

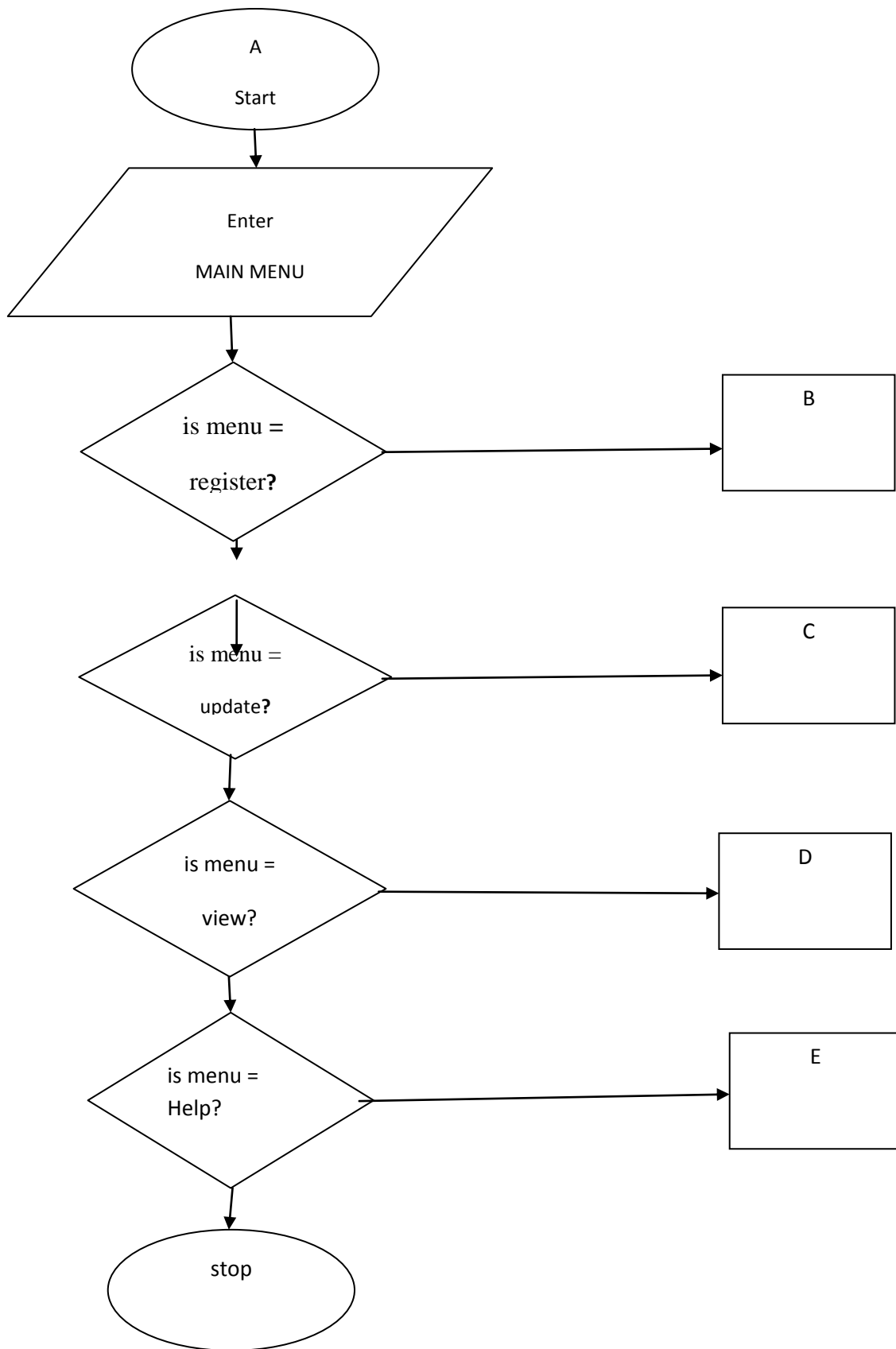


Fig 3.4 Main Program Flowchart

Register Flowchart

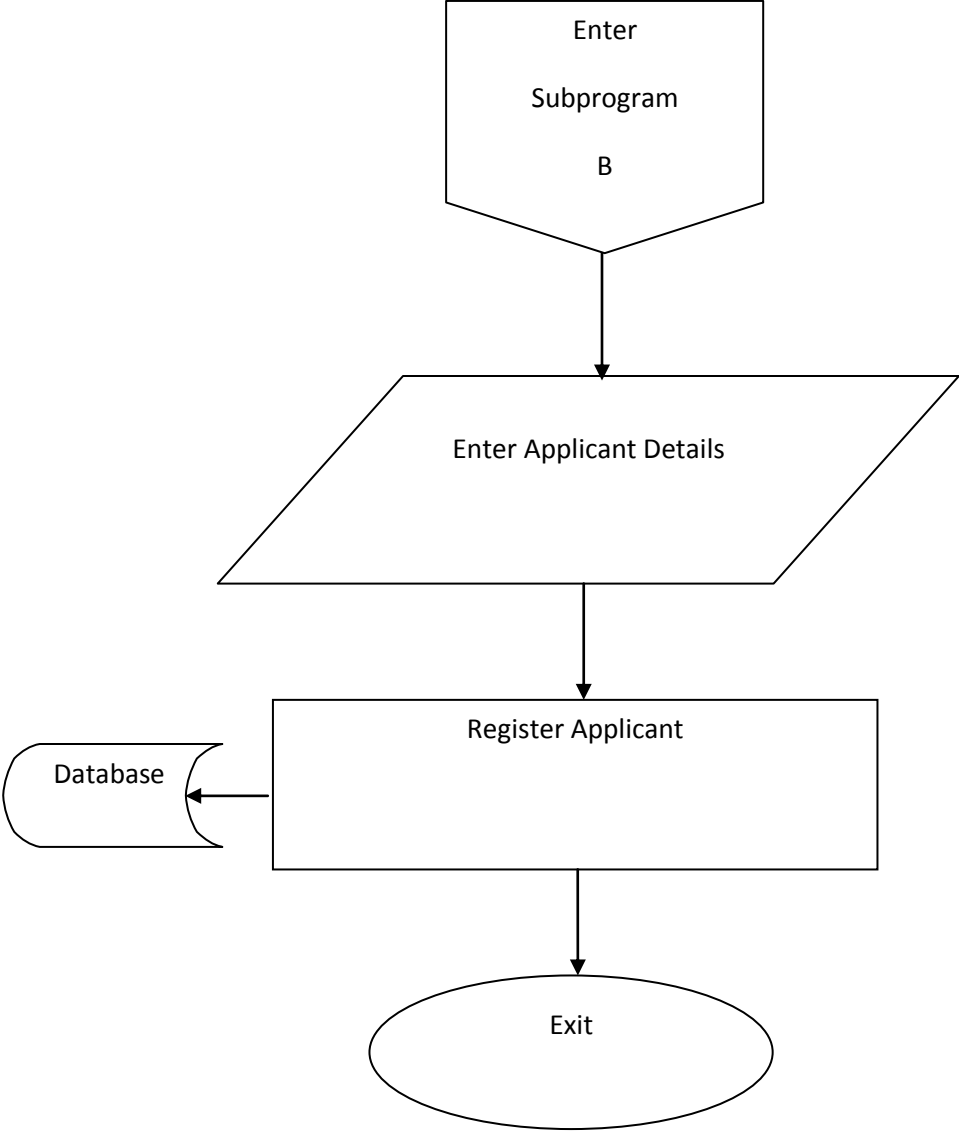


Fig3.5 Flowchart To Register Applicant

Updating Flowchart

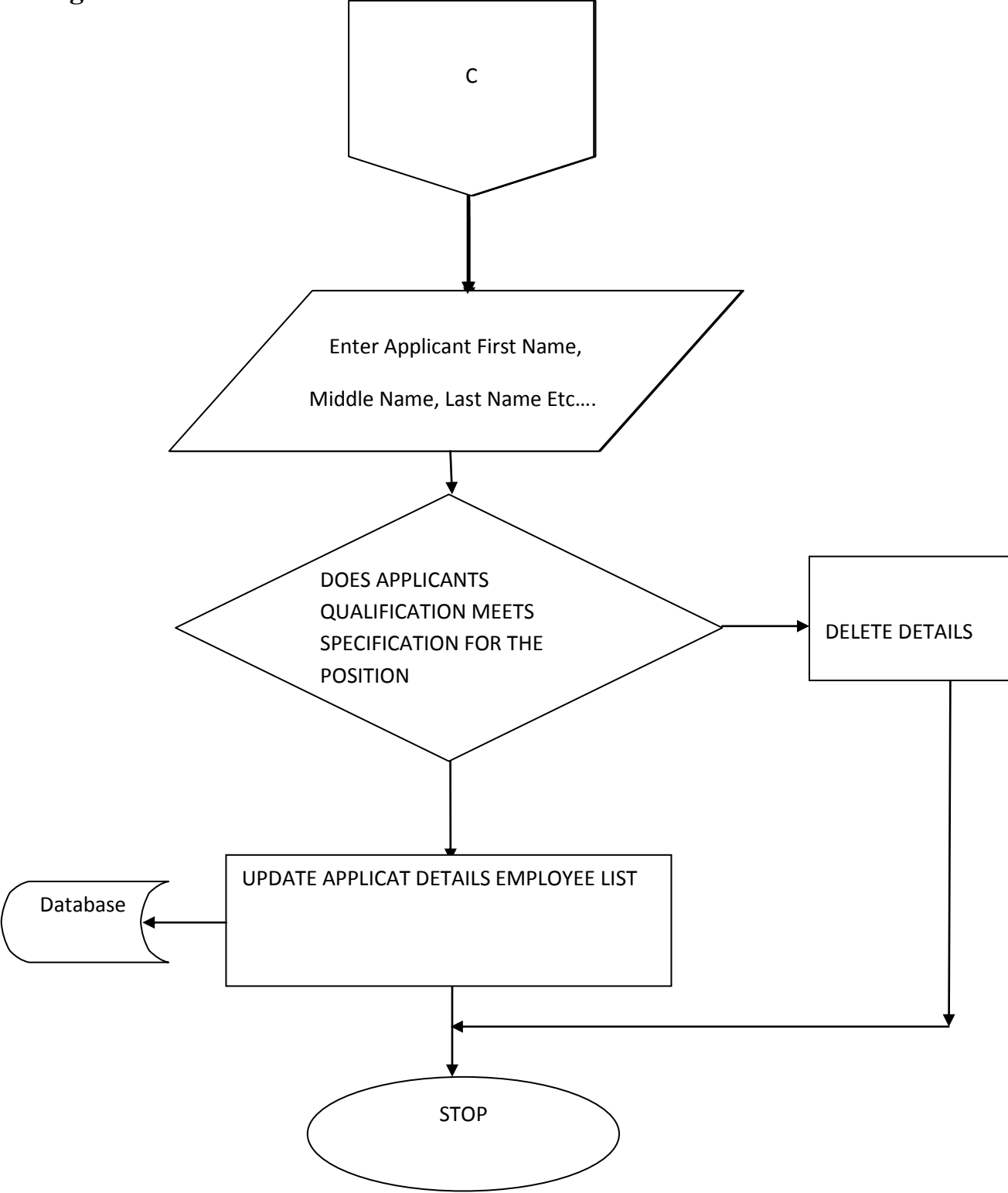


Fig3.6 Updating flowchart

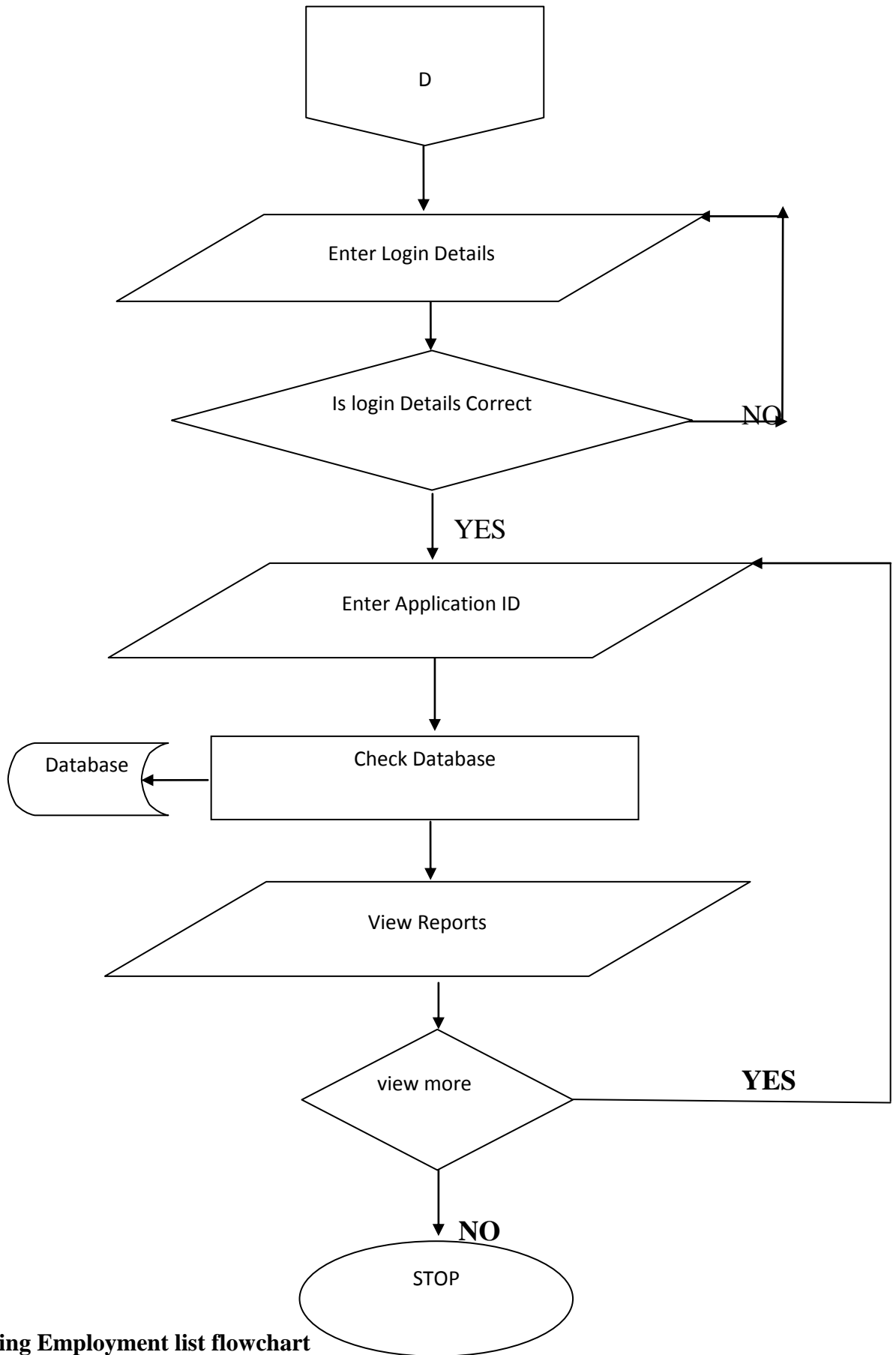


Fig3.7 Viewing Employment list flowchart

CHAPTER FOUR

IMPLEMENTATION AND TESTING

This chapter describes and shows how this standalone system is implemented, developed and tested, using the appropriate necessary programming languages, tools and technology.

4.1 IMPLEMENTATION

System or Software Implementation is the conversion of the System Requirements into an executable and working system.

4.1.1 TOOLS FOR IMPLEMENTATION

The Examination System is a web-based testing interface for staff. it include the following key features: Admin side control, users side control, security control and update itself conveniently. It was implemented using PHP, HTML, CSS, JavaScript, and MySQL was used for the database, and the Integrated Development Environment (IDE) used was Bracket text editor, and XAMPP was used as the offline local server.

1. PHP

PHP is a general-purpose programming language originally designed for web development. It was originally created by Rasmus Lerdorf in 1994; the PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page, but it now stands for the recursive initialize PHP: Hypertext Preprocessor.

PHP code may be executed with a command line interface (CLI), embedded into HTML code, or it can be used in combination with various web template systems, web content management systems, and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in a web server or as a Common Gateway Interface (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP can be used for many programming tasks outside of the web context, such as standalone graphical applications and robotic drone control.

2. Hyper Text Mark-up Language (HTML)

This is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as `` and `<input />` directly introduce content into the page. Other tags such as `<p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

3. Cascading Style Sheet (CSS)

This is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web alongside HTML and JavaScript.

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation

characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate `.css` file, and reduce complexity and repetition in the structural content.

Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.

The name cascading comes from the specified priority scheme to determine which style rule applies if more than one rule matches a particular element. This cascading priority scheme is predictable.

The CSS specifications are maintained by the World Wide Web Consortium (W3C). Internet media type (MIME type) `text/css` is registered for use with CSS by RFC 2318 (March 1998). The W3C operates a free CSS validation service for CSS documents.

4. JavaScript (JS)

This is often abbreviated as `JS`, is a high-level, interpreted programming language that conforms to the ECMA Script specification. JavaScript has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions. Alongside HTML and CSS, JavaScript is one of the core technologies of

the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it, and major web browsers have a dedicated JavaScript engine to execute it.

As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative (including object-oriented and prototype-based) programming styles.

it has APIs for working with text, arrays, dates, regular expressions, and the DOM, but the language itself does not include any I/O, such as networking, storage, or graphics facilities. It relies upon the host environment in which it is embedded to provide these features.

5. MySQL

MySQL is an Oracle-backed open-source relational database management system (RDBMS) based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX and Windows. Although it can be used in a wide range of applications. MySQL is most often associated with web applications and online publishing.

6. XAMPP

XAMPP is a software distribution which provides the Apache web server, MySQL database (actually MariaDB), Php and Perl (as command-line executables and Apache modules) all in one package. It is available for Windows, MAC and Linux systems. No configuration is necessary to integrate PHP with MySQL. It is a great

fit for this course and provides a relatively stress-free installation and way to manage the configuration changes. Also provided is PhpMyAdmin which gives a graphical user interface (GUI) tool for managing MySQL databases.

4.2 System Requirements

The system requirements are the software and hardware requirements. The software requires a set of instructions that controls a computer's action. It is a computer program that accomplishes some specific applications or tasks. This software can be purchased or a user can develop the software from software developers.

The hardware requirements unlike the software refer to the physical components of the computer i.e. the peripherals in this design. The hardware and software requirements for this system are listed below.

4.2.1 Software Requirements

- | | | |
|--------------------------|------------------|------------------|
| • Operating System | Windows versions | 2008/2010/latest |
| • Browser | Chrome | |
| • Web/Application Server | XAMPP | |
| • Database Server | MySQL | |
| • Database Connectivity | PHP | |
| • IDE | Bracket | |

4.2.2 Hardware Requirements

- | | |
|---------------------------|------------------|
| • Computer | Desktop/laptop |
| • Intel Core i3 and above | 1.6 GHZ or above |
| • RAM Capacity | 4GB or above |
| • Hard Disk | 120GB or above |

4.3 SAMPLE INTERFACES

4.1 Login

The admin or user will insert his username and password in the provided spaces and click on the LOGIN button (Figure 1.1).

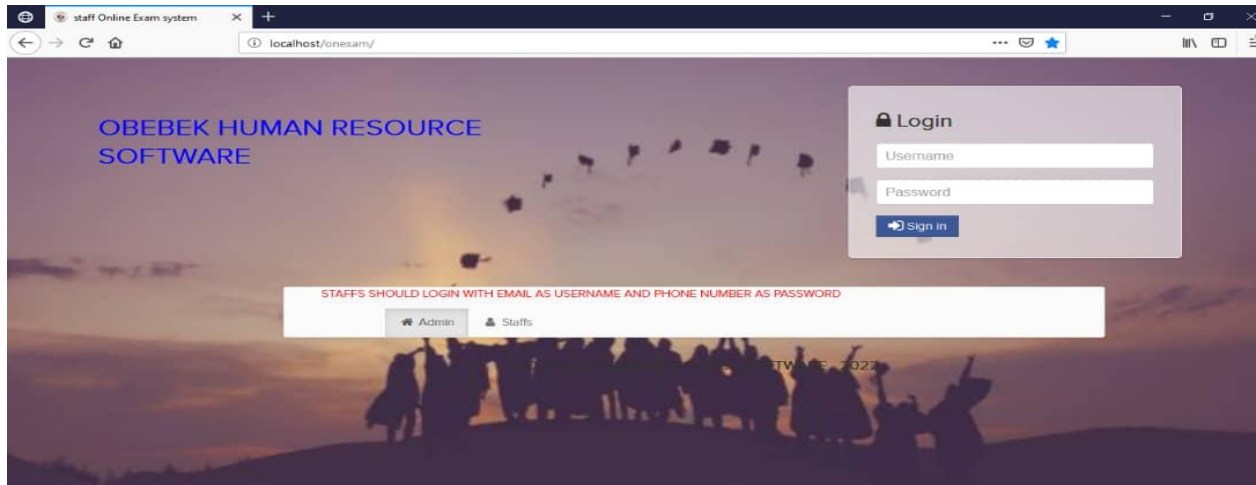


Fig 4.1: Login Interface

4.2 Admin Welcome Page

After Login in, this window will open as the welcome page which will allow Admin to navigate to his/her dashboard. The admin welcome page is divided into six parts: Manage Examinee, Manage, Exam, Manage Question, Manage Account, Manage Status, System Log.

(Figure 1.2).

Manage Exam: This is the part where admin creates new exam to be written by users.

Manage Examinee: This is where admin add new user. The admin can add a new user and assigned a role to the user which is either staff or admin.

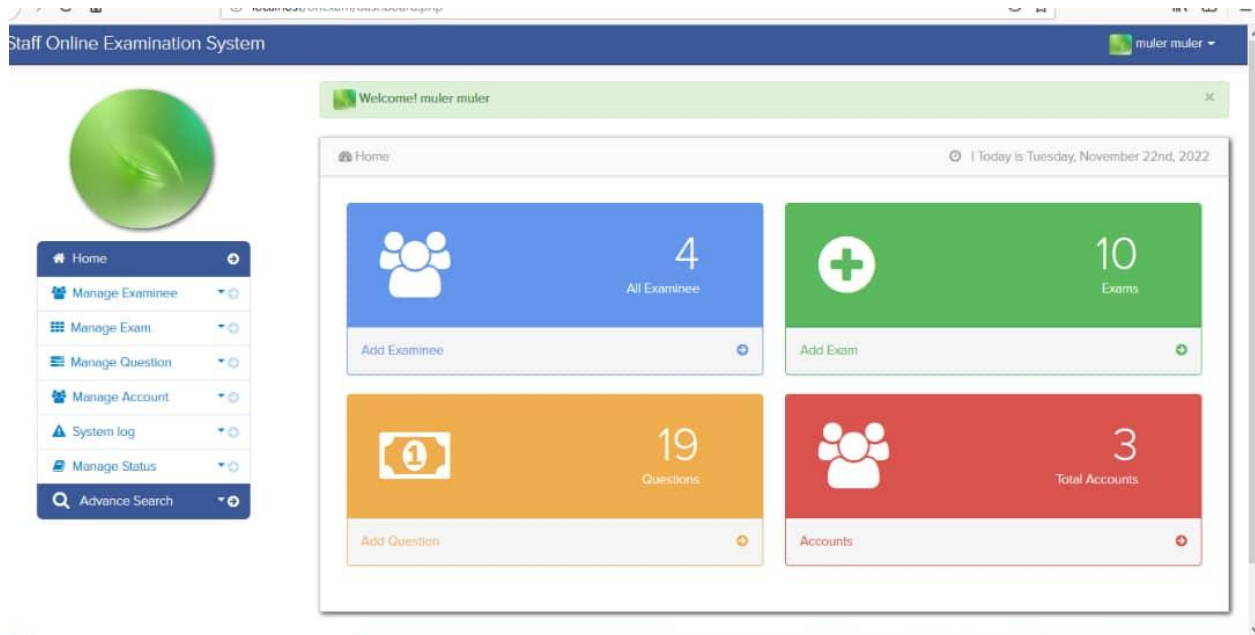


Fig 4.2 Admin Welcome Page

4.3 User Welcome Page

After Login in, this window will open as the welcome page which will allow the user to navigate to his/her dashboard. The student welcome page consists of two parts: Enroll Exam and My Exam; which enables users to enroll for an exam and writes the exam respectively.

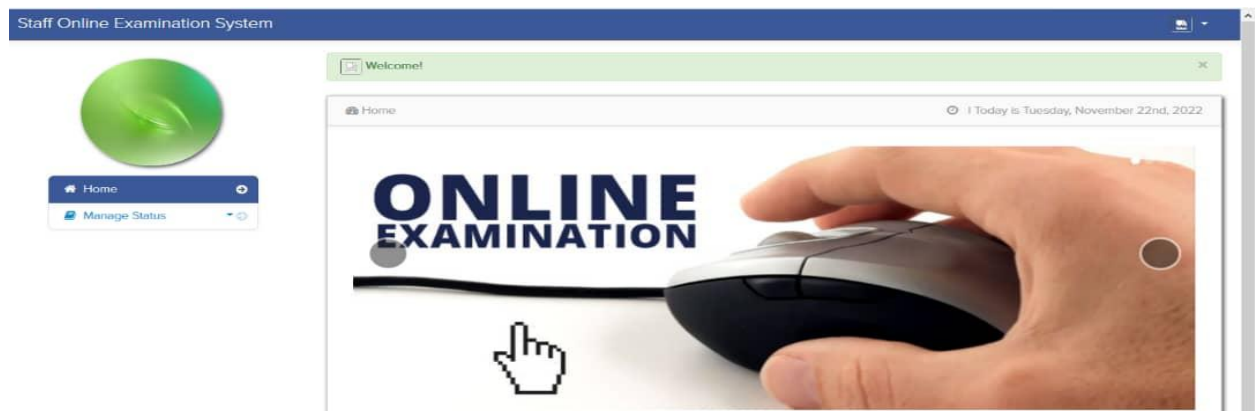


Fig 4.3 User Welcome Page

4.4 How To Take Exam

After login the user is expected to select the position he/she applied for, then click on the drop down and take the exam for that particular position, which may be the position for an accountant, secretary, director, manager etc.

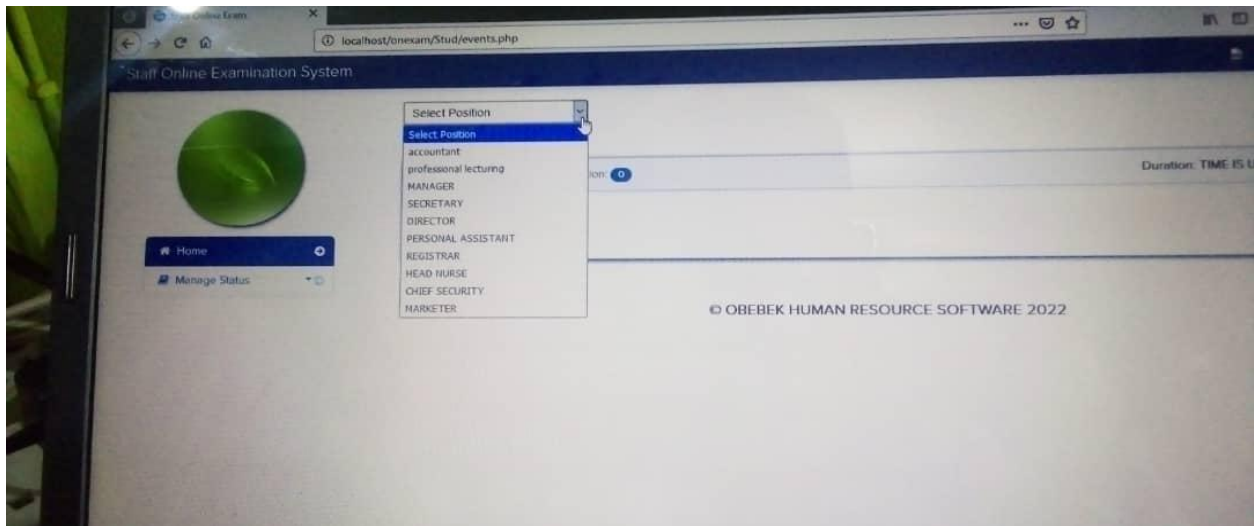


Fig 4.4 How To Take Exam

4.5 Questions And Answer Page

In this page, the questions for the selected position is displayed on the screen with various options for the user to select the correct answers.

Field Name: accountant Number of Question: 8 Duration: 00:12:20

37 ARE YOU READY TO WORK OR NOT

yes maybe get out not sure

44 WHO IS AN ACCOUNTANT

is a perso is a person that keeps cash is a person that forgets things no idea

47 AN ACCOUNTANT MUST BE READY TO WORK IN ANY STATE

not at all very correct i dont want stress no i nor wan die

48 WHY DO YOU WANT TO WORK

To improve to earn money to live big and dress well for fun

49 AS AN ACCOUNTANT YOU MUST BE DISCIPLINE

very corre not at all sometimes yes/no

50 HOW SHOULD I STRUCTURE MY SMALL BUSINESS

choose imp need enough funds rent a shop first look for a manager

51 WHAT ACCOUNTING TERMS SHOULD I BE FAMILLAR WITH

47 AN ACCOUNTANT MUST BE READY TO WORK IN ANY STATE

not at all very correct i dont want stress no i nor wan die

48 WHY DO YOU WANT TO WORK

To improve to earn money to live big and dress well for fun

49 AS AN ACCOUNTANT YOU MUST BE DISCIPLINE

very corre not at all sometimes yes/no

50 HOW SHOULD I STRUCTURE MY SMALL BUSINESS

choose imp need enough funds rent a shop first look for a manager

51 WHAT ACCOUNTING TERMS SHOULD I BE FAMILLAR WITH

cost of go Debit and credit,Revenue Inventory, Assets All the above

52 HOW SHOULD I RECORD TRANSACTIONS

record tra hire an accountant use accounting software All the above

Your Answer is Submitted Successfully

fig 4.5 Question and Answer page

4.6 Admin Control page

The admin control page is controlled by the Admin and other register staff. The Admin control page is responsible for managing examinee, manage exam, manage questions, manage account and also manage status of staff/users.

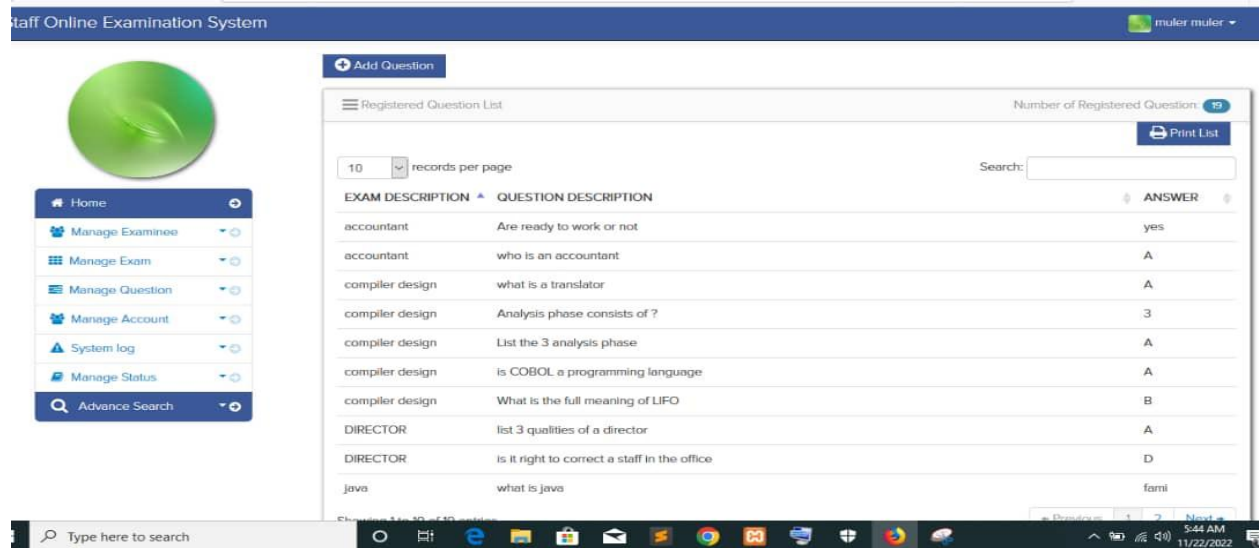


Fig 4.6 Admin Control Page

4.7 Exam Result

In this page, the result of each exam taken by different users is being recorded automatically and displayed for view by the Admin and User.

#	FIELD	RESULT
1	accountant	2/8

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Fig 4.7 Exam Result

4.4 SYSTEM TESTING

System testing is to check each step of the program to make sure that the designed software is working properly. The system was tested by inserting the admin username and password, then registering some people where the system excellently saved their information in the database, and it was saved successfully.

4.4.1 Unit Testing

The software interface and program unit functionalities of the system were tested to check how each is working (Table 4.1).

Test Cases	Explanation	Result
LOGIN	To check if only admin and user will be able to login after filling in the correct details in the available fields. Check if it was Successful	pass

PREVIEW	To check if the admin and User will be able to visit their respective dashboard	Pass
ADD USER	To check if the admin can add user (staff or admin) of different Department. Check if it was successful	Pass
ENROLL EXAM	To check if the user can enroll and write an exam. If it was successful	Pass

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Recruitment and selection of staff, forms a core part of the central activities underlying human resource management and it involves: namely, the acquisition, development and reward of workers. It forms an important part of the work of human resource managers – or designated specialists within work organizations. It has an important role to play in ensuring worker performance and positive organizational outcomes. Basically, for an organization to get competent employees they need to be tested. Organizations have taken advantage of the internet to aid their recruitment process. Online examination system for recruitment of staff is a web application that establishes a network between the organization and applicants. The organization enters on the site the questions they want in the exam. These questions are displayed as a test to the eligible applicants. The results of the test or exam is computed and displayed in real time.

5.2 Conclusion

It is very important for organizations to take advantage of the internet and adopt online examination system for the recruitment of staff. This will increase their chances of getting competent employees and also eliminate the barrier of distance and bias in recruitment of employees.

5.3 Recommendations

The following recommendations are made based on the findings of the research work:

- i. IT professionals such as computer programmers, web designers and database administrators should be employed.
- ii. Recruitment of staff should be computerized
- iii. Professionals experienced in the development of online recruitment and examination systems should be consulted for guidelines.
- iv. Staff in the recruitment unit should be sent for advanced training to learn how to develop and maintain online examination system for staff recruitment.

APPENDIX

SOURCE CODE

PHP CODE

```
<style>
#bs6 {
    max-width: 228px;
    margin: 0px 0 0;
    padding: 0;
    background-color: #fff;
    -webkit-box-shadow: 0 1px 4px rgba(0,0,0,.065);
    -moz-box-shadow: 0 1px 4px rgba(0,0,0,.065);
    box-shadow: 0 1px 4px rgba(0,0,0,.065);
}
#bs6> li > a {
    display: block;
    width: 190px \9;
    margin: 0 0 -1px;
    padding: 8px 14px;
    border: 1px solid #e5e5e5;
    text-decoration: none;
}
#bs6> li:first-child > a {
}
#bs6> li:last-child > a {
```

```

}
#bs6 > .active > a {
  position: relative;
  z-index: 2;
  padding: 9px 15px;
  border: 0;
  text-shadow: 0 1px 0 rgba(0,0,0,.15);
  -webkit-box-shadow: inset 1px 0 0 rgba(0,0,0,.1), inset -1px 0 0 rgba(0,0,0,.1);
  -moz-box-shadow: inset 1px 0 0 rgba(0,0,0,.1), inset -1px 0 0 rgba(0,0,0,.1);
  box-shadow: inset 1px 0 0 rgba(0,0,0,.1), inset -1px 0 0 rgba(0,0,0,.1);
}
/* Chevrons */
#bs6 .icon-chevron-right {
  float: right;
  margin-top: 2px;
  margin-right: -6px;
  opacity: .25;
}
#bs6> li > a:hover {
  background-color: #f5f5f5;
}
#bs6 a:hover .icon-chevron-right {
  opacity: .5;
}

```

```

}
#bs6 .active .icon-chevron-right,
#bs6.active a:hover .icon-chevron-right {
    opacity: 1;
}
#bs6.affix {
    top: 40px;
}
#bs6.affix-bottom {
    position: absolute;
    top: auto;
    bottom: 270px;
}
#bs5 {
    max-width: 228px;
    margin: 0px 0 0;
    padding: 0;
    background-color: #fff;
    -webkit-box-shadow: 0 1px 4px rgba(0,0,0,.065);
    -moz-box-shadow: 0 1px 4px rgba(0,0,0,.065);
    box-shadow: 0 1px 4px rgba(0,0,0,.065);
}
#bs5> li > a {
    display: block;

```

```

width: 190px \9;

margin: 0 0 -1px;
padding: 8px 14px;
border: 1px solid #e5e5e5;
text-decoration: none;
}
#bs5> li:first-child > a {
}
#bs5> li:last-child > a {
}
#bs5 > .active > a {
  position: relative;
  z-index: 2;
  padding: 9px 15px;
  border: 0;
  text-shadow: 0 1px 0 rgba(0,0,0,.15);
  -webkit-box-shadow: inset 1px 0 0 rgba(0,0,0,.1), inset -1px 0 0 rgba(0,0,0,.1);
  -moz-box-shadow: inset 1px 0 0 rgba(0,0,0,.1), inset -1px 0 0 rgba(0,0,0,.1);
  box-shadow: inset 1px 0 0 rgba(0,0,0,.1), inset -1px 0 0 rgba(0,0,0,.1);
}
/* Chevrons */
#bs5 .icon-chevron-right {
  float: right;
  margin-top: 2px;

```

```
margin-right: -6px;
opacity: .25;
}
#bs5> li > a:hover {
background-color: #f5f5f5;
}
#bs6 a:hover .icon-chevron-right {
opacity: .5;
}
#bs5 .active .icon-chevron-right,
#bs5.active a:hover .icon-chevron-right {
opacity: 1;
}
#bs5.affix {
top: 40px;
}
#bs5.affix-bottom {
position: absolute;
top: auto;
bottom: 270px;
}
#bs7 {
max-width: 228px;
margin: 0px 0 0;
```

```
padding: 0;
background-color: #fff;
-webkit-box-shadow: 0 1px 4px rgba(0,0,0,.065);
-moz-box-shadow: 0 1px 4px rgba(0,0,0,.065);
box-shadow: 0 1px 4px rgba(0,0,0,.065);
}
```

```
#bs7> li > a {
display: block;
width: 190px \9;
margin: 0 0 -1px;
padding: 8px 14px;
border: 1px solid #e5e5e5;
text-decoration: none;
}
```

```
#bs7> li:first-child > a {
}
```

```
#bs7> li:last-child > a {
}
```

```
#bs7 > .active > a {
position: relative;
z-index: 2;
padding: 9px 15px;
border: 0;
```

```

text-shadow: 0 1px 0 rgba(0,0,0,.15);
-webkit-box-shadow: inset 1px 0 0 rgba(0,0,0,.1), inset -1px 0 0 rgba(0,0,0,.1);
-moz-box-shadow: inset 1px 0 0 rgba(0,0,0,.1), inset -1px 0 0 rgba(0,0,0,.1);
    box-shadow: inset 1px 0 0 rgba(0,0,0,.1), inset -1px 0 0 rgba(0,0,0,.1);
}

/* Chevrons */
#bs7 .icon-chevron-right {
    float: right;
    margin-top: 2px;
    margin-right: -6px;
    opacity: .25;
}

#bs7 > li > a:hover {
    background-color: #f5f5f5;
}

#bs7 a:hover .icon-chevron-right {
    opacity: .5;
}

#bs7 .active .icon-chevron-right,
#bs7 .active a:hover .icon-chevron-right {
    opacity: 1;
}

#bs7.affix {
    top: 40px;
}

```

```

}
#bs7.affix-bottom {
    position: absolute;
    top: auto;
    bottom: 270px;
}
</style>
<link href="bootstrap/css/admin_background.css" rel="stylesheet"
media="screen"/>
<link rel="shortcut icon" href="images/linkedin.png" />
<div class="span3" id="sidebar">
    
    <ul class="nav nav-list bs-docs-sidenav nav-collapse collapse">
        <li class="active">
            <a href="dashboard.php"><i class="icon-
chevron-right"></i><i class="icon-home"></i>&nbsp;Home</a>
            </li>
            <!-------/.* Manage Users sidebar*
            <li>
                <a href="javascript:;" role="button"
class="dropdown-toggle" data-toggle="collapse" data-target="#bs"><i
class="icon-chevron-right"></i><i class="icon-group"></i>&nbsp;Manage Users
                <div class="muted pull-right"><i
class="caret"></i></div></a>
                <ul id="bs" class="collapse">

```

```

        <li class="">
            <a href="membersDetail.php"><i class="icon-chevron-
right"></i><i class="icon-user"></i> View Details</a>
        </li>

        <li>
            <a href="add_members.php"><i class="icon-chevron-
right"></i><i class="icon-plus-sign-alt"></i> Add User
            </a>
        </li>

    </ul>

</li>

<!-- Manage Examinee
<li>
    <a href="javascript:;" role="button"
class="dropdown-toggle" data-toggle="collapse" data-target="#bs7"><i
class="icon-chevron-right"></i><i class="icon-group"></i>&nbsp;Manage
Examinee
    <div class="muted pull-right"><i
class="caret"></i></div></a>
    <ul id="bs7" class="collapse">

        <li class="">
            <a href="teensDetail.php"><i class="icon-chevron-right"></i><i
class="icon-user"></i> View Details</a>
        </li>

```

```
                </li>
                <a href="add_teen.php"><i class="icon-chevron-right"></i><i
class="icon-plus-sign-alt"></i> Add Examinee
```

```
</a>
```

```
</li>
```

```
</ul>
```

```
</li>
```

```
<!-- Manage Exam
```

```
<li>
```

```
    <a href="javascript:;" role="button"
class="dropdown-toggle" data-toggle="collapse" data-target="#bs6"><i
class="icon-chevron-right"></i><i class="fa fa-th"></i>&nbsp;  Manage Exam
```

```
    <div class="muted pull-right"><i
class="caret"></i></div></a>
```

```
    <ul id="bs6" class="collapse">
```

```
        <li class="">
```

```
            <a href="Visitor.php"><i class="icon-chevron-right"></i><i
class="icon-user"></i> View Details</a>
```

```
        </li>
```

```
    </li>
```

```
    <a href="add_visitor.php"><i class="icon-chevron-right"></i><i
class="icon-plus-sign-alt"></i> Add Exam
```


<!-------/. * Manage Question sidebar*

<i class="icon-chevron-right"></i><i class="fa fa-tasks"></i> Manage Question

<div class="muted pull-right"><i class="caret"></i></div>

<ul id="bs1" class="collapse">

<li class="">

<i class="icon-chevron-right"></i><i class="icon-money"></i> View Question

<li class="">

<i class="icon-chevron-right"></i><i class="icon-plus-sign-alt"></i> Add Question

<!-------/. * manage Account user sidebar*

<i class="icon-chevron-right"></i><i class="icon-group"></i> Manage Account

<div class="muted pull-right"><i class="caret"></i></div>

<ul id="bs2" class="collapse">

<li class="">

<i class="icon-chevron-right"></i><i class="icon-user"></i> Create Account

<!-------/.* System Log sidebar*

<i class="icon-chevron-right"></i><i class="icon-warning-sign"></i> System log

<div class="muted pull-right"><i class="caret"></i></div>

<ul id="bs3" class="collapse">

<li class="">

```
<a href="activity_log.php"><i class="icon-chevron-right"></i><i class="icon-warning-sign"></i> Activity Log</a>
```

```
</li>
```

```
<li class="">
```

```
<a href="user_log.php"><i class="icon-chevron-right"></i><i class="icon-warning-sign"></i> User Log</a>
```

```
</li>
```

```
</ul>
```

```
</li>
```

```
----->
```

```
<li>
```

```
<a href="javascript:;" role="button" class="dropdown-toggle" data-toggle="collapse" data-target="#bs5"><i class="icon-chevron-right"></i><i class="icon-book"></i>&nbsp;Manage Status
```

```
<div class="muted pull-right"><i class="caret"></i></div></a>
```

```
<ul id="bs5" class="collapse">
```

```
<li class="">
```

```
<a href="events.php"><i class="icon-chevron-right"></i><i class="icon-dashboard"></i> Take Exam</a>
```

```
</li>
```

```
<li class="">
```

```
<a href="upcoming.php"><i class="icon-chevron-right"></i><i class="icon-trophy"></i> View Result </a>
```

```
</li>
```


<!-------/. * manage Report sidebar*

<li class="active">

<i class="icon-chevron-right"></i><i class="icon-search icon-large"></i> Advance Search

<div class="muted pull-right"><i class="caret"></i></div>

<ul id="bs4" class="collapse">

<i class="icon-chevron-right"></i><i class="icon-search"></i> Users

----->

<?php include('search_form.php'); ?>

<?php include('search_form.php'); ?>

</div>

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